



NEXTSTEP™



***NEXTSTEP
provides the
premier platform
for the development
and deployment
of object-oriented
mission critical
custom applications.***

NeXT™ is the only company to provide a completely integrated object-oriented client/server computing environment for enterprise-wide software development and deployment. Its environment, NEXTSTEP is the premier system for developing and deploying custom client/server business applications and integrating them with advanced productivity software throughout a heterogeneous network. NEXTSTEP provides cross-platform integration, superior ease of use, and the robustness needed for handling mission-critical applications globally.

Fully object-oriented operating environments appeal strongly to programmers, systems administrators, and users. For systems administrators, objects reduce maintenance time and costs. At the system level, objects enable programmers to rapidly reuse and customize core business components. At the application level, users will find feature and interface consistency across applications.

NEXTSTEP is based on the industry-standard Berkeley UNIX® operating system and the Mach system kernel. NEXTSTEP integrates seamlessly with the most popular local and wide area networks including NFS™ and Novell®, and also accesses Macintosh®, and MS-DOS® filesystems. Users with no training in networks or file systems can easily navigate networks and share information using Workspace Manager™, a powerful and easy-to-use file management application.

NEXTSTEP includes the class libraries needed to use custom software developed with NeXT's NEXTSTEP Developer product. When it's coupled with the Enterprise Objects™ Framework, users can benefit from object persistence in relational database applications.

NEXTSTEP also bundles powerful user and system management applications. These include NeXTmail™, a multimedia electronic mail system; FaxReader for viewing faxes; Digital Librarian™, a powerful full-text searching tool; Edit, a multifont text editor; and NetInfo™, a tool for administering network resources.

PRESENTING NEXTSTEP

The NEXTSTEP User Experience

NEXTSTEP provides the power of objects in an award-winning graphical user interface with the underlying robustness of the UNIX client/server operating system.

Enterprise Solution

Objects have paved the way for quicker application development. However, deploying a custom application across an enterprise is no small task. NEXTSTEP continues to lower the cost of computing by reducing the number of cycles spent in deployment, training, and maintenance. An added benefit of NEXTSTEP is an increase in overall productivity. All of this is possible because NEXTSTEP is extremely scalable — even when the quantity of deployed machines numbers into the tens-of-thousands.

Rapid Deployment and Less Maintenance

NEXTSTEP can be installed and fully integrated into a network in less than one hour, which is significantly less time than any other environment. The operating system can be loaded from a CD or from an installation server across a network. Through NetInfo, every NEXTSTEP machine learns about all of the services the network has to offer. This includes file servers, printers, fax modems, and user accounts as well as important network parameters. In addition, NEXTSTEP-based computers can interoperate seamlessly with other systems in the existing network environment.

A network user's needs do not stop once the system has been deployed. Adding new network resources for global access is often quite complicated for network administrators to perform in other environments. NetInfo allows administrators to easily keep track of all network resources across the enterprise. The entire NEXTSTEP network can be maintained remotely from any machine, and future software distribution can also be handled remotely. Performing any of these tasks helps significantly reduce the cost of deploying and maintaining custom or mission-critical applications.

Cross-Platform Integration

The NEXTSTEP environment supports multi-architecture binaries. This allows one application binary to be launched on all NEXTSTEP architectures. Therefore, systems administrators no longer need to maintain separate versions for every platform architecture in the organization. Third-party software vendors also release products for several platforms in one binary file. Applications can run side-by-side with X/MOTIF® applications via third-party emulation. On Intel® PCs, users can even run legacy DOS/Windows applications in the NEXTSTEP environment. All of these applications can access remote client/server databases, support enterprise-wide collaboration, and add value to information contained in legacy mainframe systems. Desktop integration is a real benefit of NEXTSTEP.

Application Productivity

NEXTSTEP allows applications and information to integrate effortlessly and seamlessly. Thanks to Object Links, information in one NEXTSTEP application can be embedded and linked into another application. Using Services, applications can extend their own functionality by borrowing the features of other applications — giving every application such capabilities as optical character recognition, database searching, scanning, information filing, or mail services, all without leaving the application currently in use. With NEXTSTEP, users can work with the information they need and the applications they prefer, confident that the applications will integrate with unparalleled flexibility. In addition, users can integrate the many advanced productivity applications available under NEXTSTEP with their own custom applications.

Collaboration

Using NEXTSTEP, users are ready to collaborate. NEXTSTEP makes navigating large or small networks a breeze. NEXTSTEP's graphical Workspace Manager allows users to use network files and information resources as easily as they manage their own personal files — whether they are on an NFS server or a NetWare® network. NEXTSTEP's multimedia electronic mail system makes sharing information of any kind as easy as drag and drop.

Ease of Use = Less Training

NEXTSTEP's ease of use comes from its object-oriented core. By providing the fundamental object building blocks used by all applications, NEXTSTEP ensures user interface consistency. The NEXTSTEP environment provides tear-off menus anywhere on the screen, performs file manipulation by drag and drop, and browses local or wide area networks easily. Users can create "bookmarks" to return instantly to any server, directory, or file anywhere on the network, place the most used applications on a convenient dock, and view files in list file hierarchy or icon format. All applications maintain a similar user-interface using system level objects such as font panels, color panels, and print panels. This allows users to get up to speed with new applications quickly.

Information-Rich and Media-Rich Computing

NEXTSTEP is designed to be an information-rich and media-rich environment. NEXTSTEP uses Display PostScript, so what is seen on screen is exactly what is printed, in black and white or color. NEXTSTEP also allows users to add sound to any application. Using NEXTSTEP's Digital Librarian, users can create custom information resources such as guides, dictionaries, and reference tools, which can contain graphics and which are accessible from within any application. And should users ever need help, NEXTSTEP's integrated Help facility is only a mouse click away.

NEXTSTEP FEATURES AND BENEFITS

Workspace Manager



A graphical environment for managing network-wide documents and applications on NEXTSTEP systems.

Provides a rich variety of tools to interact with the NEXTSTEP environment: the application dock to manage frequently used applications; the Processes panel to manage application and background processes; and Inspectors to manipulate file attributes and security.

The File Viewer allows you to navigate the network with listing, browser, and iconic views, to open files in their associated applications, and to place frequently used files on a convenient shelf.

NeXTmail



A sophisticated electronic mail system for exchanging multi-media messages containing files, formatted text, images, and sound objects. MIME support provides interoperability with e-mail applications on other platforms.

Dramatically enhances communication among workgroup members. Multimedia NeXTmail allows the exchange of multi-font messages with images, voice annotations, and any type of application or data file.

Files or selected items can be sent from within an application, or simply drag-and-drop documents anywhere within a message. NeXTmail is fully integrated into the NEXTSTEP operating environment.

PC and Macintosh Connectivity



Macintosh and MS-DOS file system compatibility.

Integrates industry standard networking capabilities, including TCP/IP, NFS, and Novell NetWare.

NEXTSTEP contains industry standard networking to accommodate its integration into existing environments, as well as to meet your requirements for network size and scalability.

Provides connectivity in heterogeneous environments.

Novell client access to files and printers on NetWare networks. Preserves current investment in networks of PCs while you take advantage of the advanced features of NEXTSTEP-based systems.

NetInfo



A platform independent tool to effectively manage heterogeneous networks.

NetInfo reduces installation and maintenance costs by reducing the number of people required to manage a network.

NetInfo is platform independent, easy to use, and will scale throughout the enterprise.

Its hierarchical and distributed design allows systems administrators to tailor the system to individual needs.

On-Line Help



Context-sensitive with hypertext linking and graphics. A standard panel across all applications.

Offers quick assistance on applications' features and use.

Demonstrates how to use an application in real time, without stopping for training.

Global System Software



NEXTSTEP user interface is available in English, French, German, Spanish, Swedish, and Italian.

Everything can be in users' native language.

Allows users to change environment to other languages easily.

Customizable User Environment



Preferences for security, system interface appearance, and language preferences.

Allows tailoring of computing environments to fit personal style and needs. These preferences will follow suit on many machines on the NEXTSTEP network.

NEXTSTEP FEATURES AND BENEFITS

Intel Platform DOS/Windows Interoperability



Supports multiple partitions on the local PC hard drive, enabling operating systems such as DOS to reside on the same disk as NEXTSTEP.

Using third party products, users can run DOS and Windows applications within NEXTSTEP for Intel Processors.

Preserves investment in PC hardware, and in DOS and Windows applications and data.

Provides complete integration within the workgroup.

NEXTSTEP Interoperability



Multi-architecture binaries allow developers to create a single executable that runs on four hardware architectures. (Intel, Motorola, SPARC, and PA-RISC)

One application binary can be launched on all NEXTSTEP systems, regardless of the processor.

Allows choice for the best hardware solution to meet needs while providing complete integration within the workgroup.

Object Integration



Object persistence and distribution models are easily integrated into the user environment.

Distributed Objects enables object messaging across NEXTSTEP clients, providing an easy framework for building powerful client/server applications.

Optional PDO™ seamlessly extends NEXTSTEP's industry-leading object model to non-NEXTSTEP operating systems.

The optional Enterprise Objects Framework seamlessly extends the power of NEXTSTEP's object-oriented paradigm to client/server database applications.

Object Links



A way to share information among documents so that changes made in one are automatically reflected in the others.

Makes it easy for workgroups to produce collaborative documents by streamlining the revision process.

Assures users that shared information is up-to-date.

Allows for a single document that is a composite of information from different applications, and is updated automatically.

Deployment Tools



BuildDisk, Configure, NetInfoManager, NetInstallHelper, NFSManager, SimpleNetworkStarter

NEXTSTEP can be installed and fully integrated into a network in less than one hour.

The entire NEXTSTEP network can be maintained remotely from any machine.

Network administration tools are GUI-based for easy maintenance.

Digital Librarian



A full text indexing and searching tool for creating custom digital libraries of many forms of electronic information.

Allows access to important information via single or multiple-keyword searches.

Provides instant full text search access to system and application documentation, or any other text file.

Display PostScript Level II



Uses the device-independent PostScript imaging model. Includes full color support and PostScript Level I compatibility.

Ensures what is on the screen is what is printed on color and black and white PostScript printers (to the best of physical capabilities and PostScript levels).

Includes complete screen support for scalable PostScript fonts.

PRODUCT DETAILS

BUNDLED APPLICATIONS

Workspace Manager

A graphical environment for managing network-wide documents and applications on NEXTSTEP systems.

NeXTmail

A sophisticated electronic messaging system for sharing text, sound, and graphics among network users.

Edit

A mouse-based text editor for creating and editing ASCII or Rich Text Format (RTF) files. Supports TIFF and EPS images.

FaxReader

An application for reading incoming fax documents across a network. Used in conjunction with third-party fax modems.

Preferences

A graphical interface for changing personal preferences.

Digital Webster™

An application providing access to Webster's Ninth New Collegiate Dictionary® and Collegiate® Thesaurus.

Installer

A standardized tool for installing applications and files onto the hard disk.

Digital Librarian™

A full text indexing and searching tool for creating custom digital libraries.

Preview

An application that displays and prints PostScript and TIFF files.

Terminal

A terminal emulator that provides direct UNIX shell interaction, VT100™ emulation and TN3270 emulation.

T_EX™

A typesetting system for long or complex technical documents.

SYBASE® AND ORACLE® ADAPTERS

All utilities needed by Enterprise Objects™ Framework to access SYBASE and ORACLE databases.

Demonstration Applications

Several simple applications showcasing NEXTSTEP functionality.

STANDARD APPLICATION FEATURES

Services

A facility enabling applications to take advantage of the exported features of other applications.

Object Links

A special type of copying which associates the pasted data with its original, and keeps the copy updated automatically.

Help Panel

A consistent, context-sensitive, hypertext linking, on-line Help system.

Font Panel

A standard interface for selecting a PostScript font for text in a document.

Colors Panel

A standard interface for choosing colors. Provides a variety of color models including PANTONE colors.

Spelling Panel

A standard interface for checking spelling and building user dictionaries.

Open/Save/Print Panels

Standard interfaces for opening, saving, and printing documents.

Fax Panel

An extension of the Print panel allowing faxing of any document that can be printed.

Localized System Software

The user interface for English, French, German, Spanish, Swedish, and Italian.

SYSTEM SOFTWARE

Mach/UNIX OS

The NEXTSTEP operating system, compatible with Berkeley 4.3 BSD UNIX. Contains a small, efficient, communication-based, multithreaded kernel, which provides virtual memory, true multitasking and fast messaging.

Window Server

A screen manager that can render Display PostScript Level II, version 3.2 of Interactive RenderMan™ and Photorealistic RenderMan™.

Sun™ Network File System (NFS) 4.0

Networking software allowing any NEXTSTEP computer to be a client or server to any other computer running NFS.

NetInfo

A hierarchical and distributed database for maintaining network administrative data.

Novell NetWare Client

Novell NetWare client software integrated with the UNIX file system, providing access to NetWare 286, NetWare 386, and Portable NetWare servers for file sharing and printing.

Ethernet and Token Ring Networking

IEEE 802.3a and Token Ring networking software permitting transparent data sharing over Ethernet and Token Ring cabling.

CD-ROM File System

Supports CDs formatted with the ISO-9660, High Sierra, and Rock Ridge standards.

DOS File System

Integrated with the Workspace Manager, supports initializing, reading, and writing DOS floppy disks for easy file transfers. Also supports mounting local DOS file systems from within NEXTSTEP.

Macintosh File System

A dynamically loaded file system, integrated with the Workspace Manager, that supports initializing, reading, and writing Macintosh disks (1.44 MB floppies, SCSI hard disks, as well as CD-ROMs).

Multimedia Compression

Lempel-Ziv for text, Audio Transform Coding for sound, JPEG for TIFF graphics, and Group 4 for faxes. Integrated into the NEXTSTEP environment.

SYSTEM ADMINISTRATION APPLICATIONS

SimpleNetworkStarter

A simple but powerful tool for setting up small networks of NEXTSTEP computers.

UserManager

A tool for adding, modifying, and deleting both user accounts and user groups.

PrintManager

A graphical tool for configuring printers and fax modems and for monitoring the progress of print and fax requests.

NFS Manager

A tool for exporting and mounting NFS volumes.

HostManager

A tool for configuring the administrative information for individual computers.

NetInfo Manager

A graphical tool for accessing and manipulating NetInfo databases.

BuildDisk

A tool for reformatting a disk and reinstalling software from another disk.

Upgrader

A network-based application for upgrading to future versions of NEXTSTEP, while preserving user data and configuration files.

System Administration Documentation

Indexed on-line manual describing NEXTSTEP system administration.

UNIX Manual Pages

Indexed information on supported UNIX utilities.

Network Install

Install NEXTSTEP through a network server without requiring a CD-ROM drive.

Bulk Upgrade

"Push" upgrades automatically onto systems on the network without the need for any user intervention.

OBJECT-ORIENTED KITS

Application Kit™

A framework for all NEXTSTEP applications, providing a consistent and powerful user interface.

3D Graphics Kit™

A toolkit including objects for integrated three-dimensional graphics applications, along with multithread rendering.

Indexing Kit™

A toolkit for managing and indexing large amounts of textual and record-based information.

Sound Kit™

Object classes for recording and playback of sound, enabling voice-integrated applications.



SYSTEM REQUIREMENTS

NEXTSTEP is designed to run on a wide variety of hardware platforms. For specific supported configurations, please refer to the *NEXTSTEP Hardware Compatibility Guide*.

For any hardware specification or purchase, please contact NeXT for the latest update to this guide.

NEXTSTEP GENERAL REQUIREMENTS

Installation

A SCSI CD-ROM drive is required for initial installation. Subsequent installations may be performed with a supported network interface and properly configured NEXTSTEP installation server. Portable systems may require a docking station.

Available Disk Space

Intel-based systems 120MB minimum, 200MB recommended for standalone systems.

RISC-based systems 150MB minimum, 250MB recommended for standalone systems.

Keyboard and Pointing Devices

Most standard keyboards and input devices.

Networking

Optional networking may be performed with many supported Thick, Thin, and Twisted Ethernet or Token Ring interfaces.

Sound

Optional sound playback and recording may be performed with many PC soundcards and onboard sound controllers.

Printers

Any PostScript printer connected via a serial or parallel port. NeXT recommends color PostScript printers with PostScript Level II for proper color support.

NEXTSTEP FOR INTEL PROCESSORS

CPU i486®-based or Pentium™-based PC compatible computer including 486SC, 486SL, 486DX series, or Pentium. 486SX systems require a floating point co-processor, or upgrade to the 486DX series.

Expansion Bus ISA, EISA, VL-BUS, PCI, or PCMCIA expansion bus.

Video Many 32-, 16-, and 8-bit color video cards with linear frame buffer support, and 8- and 2-bit grayscale. Resolutions of 640x480, 800x600, 1024x768, 1120x832, 1280x1024, and higher are possible with appropriate video card selection.

Memory Memory requirements vary based on selection of graphics adaptor. 2-bit grayscale: min 8MB, 12MB recommended; 8-bit color/grayscale: min 12MB, 16MB recommended; 16-bit color: 16MB min, 24MB recommended.

Disk Interfaces Both IDE and many SCSI hard disk interfaces are supported. SCSI CD-ROM drives and tape drives, floppy drives.

NEXTSTEP FOR HP PA-RISC PROCESSORS

CPU HP 9000 Series 700 Workstations including Models 712: 60 & 80 MHz; 715: 33, 50, 64, 75, & 80 MHz; 735: 99 & 125 MHz and 755.

Video 8-bit grayscale and 24-bit color at 1280x1024 on 7X5 workstations. Support for 8-bit grayscale and pseudo 24-bit color at 1280x1024 is available on 712 systems. 24-bit color support on 7x5 systems requires the CRX-24 graphics adaptor.

Memory Memory requirements vary based on selection of graphics adaptor. A minimum of 16MB is required, 24MB is recommended for 8-bit grayscale, and 32MB is recommended for 24-bit color.

Disk Interfaces SCSI hard drives, HP CD-ROM drives, and tape drives. 1.44MB floppy disks are supported on 712 workstations.

NEXTSTEP FOR SUN SPARC PROCESSORS

CPU Sun microSPARC II: 60, 70, 85, & 110 MHz; SuperSPARC+: 50, 60, & 90 MHz

Expansion Bus SBUS

Video 8-bit color and grayscale at 1024x768 and 1280x1024 or 24-bit color at 1152x900 or 1280x1024 with appropriate video system.

Memory Memory requirements vary based on selection of graphics adaptor. A minimum of 16MB is required, 32MB is recommended for color.

Disk Interfaces SCSI hard drives, SUN CD-ROM drives, and tape drives. Floppy disk drives.

NEXTSTEP FOR NeXT COMPUTERS

CPU Motorola-based NeXT computers including: 68030, 68040 25 MHz, and 68040 33 MHz systems.

Video 2-bit grayscale, 16- and 32-bit color at 1120x832.

Memory 16MB minimum. 24MB recommended.

Disk Interfaces SCSI hard drives, CD-ROM drives, and tape drives. Floppy disk drives.

NEXTANSWERS INFORMATION

Technical information on many topics is available from NeXTanswers, NeXT's free information retrieval system. This system allows you to request on-line technical documents, drivers, and other software, which are then sent to you automatically. You can request documents by fax, e-mail, ftp, WWW, or modem.

Using NeXTanswers by Fax

Call (415) 780-3990 from a touch-tone phone and follow the instructions.

Using NeXTanswers by E-mail

Send an Internet e-mail to nextanswers@next.com with the two-word subject: INDEX HELP.

Using NeXTanswers via the World Wide Web

Connect to NeXT's webserver at URL <http://www.next.com>.

Using NeXTanswers by Anonymous ftp

Connect to [ftp.next.com](ftp://ftp.next.com) and read the help file [pub/NeXTanswers/README](#).

Using NeXTanswers by Modem

Call the NeXTanswers BBS at (415) 780-2965. Log in as the user "guest" and enter the Files section.

FOR ADDITIONAL INFORMATION, CALL 1-800-TRY-NeXT

NeXT Computer, Inc.
U.S. Headquarters

900 Chesapeake Drive
Redwood City, CA 94063
(415) 366-0900

European Offices

Oskar Messter Strasse 24
D- 85737 Ismaning
Germany
+49 - 89 - 99 65 310

Tour CBC
8 rue Félix Pyat
92800 Puteaux La Defense
France
+33 (1) 46 93 27 82

Sommerville House
50a Bath Road
Hounslow, Middlesex TW3 3EE
United Kingdom
+44 (181) 565 0005

Asia-Pacific Office

16F, Shin-Kawasaki Mitsui Building
890-20 Kashimada, Saiwai-ku,
Kawasaki-shi
Kanagawa, 211
+81 44 549 5550

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